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| **COVERING BOTH GLE’S AND CCSS**  **(State correlation is not a perfect match-What makes them the same….what makes them different?)**  2.1.1 Compare and order rational and common irrational numbers; e.g., -5, 1⁄16, -4½, √2, pi; and locate them on number lines, scales and coordinate grids.  **CC.8.NS.1** Understand informally that every number has a decimal expansion; the rational numbers are those with decimal expansions that terminate in 0s or eventually repeat. Know that other numbers are called irrational.  **CC.8.NS.2** Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π2). For example, by truncating the decimal expansion of √2 (square root of 2), show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.  2.1.2 Identify perfect squares and their square roots; e.g., squares 1, 4, 9, 16… to corresponding roots 1, 2, 3, 4 …; and use these relationships to estimate other square roots.  **CC.8.NS.2** Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π2). For example, by truncating the decimal expansion of √2 (square root of 2), show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.  2.2.6 Calculate the square roots of positive integers using technology.  **CC.8.NS.2** Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π2). For example, by truncating the decimal expansion of √2 (square root of 2), show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.  **CC.8.EE.2** Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational.  2.2.11 Use the rules for exponents to multiply and divide with powers of 10 and extend to other bases.   * 102 × 103 = 105 – Add exponents * 25 ÷ 27 = 2-2 – Subtract exponents   **CC.8.EE.1** Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3(–5) = 3(–3) = 1/(33) = 1/27.  **CC.8.EE.2** Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational.  2.1.3 Red and represent whole numbers and those between zero and one in scientific notation (and vice versa) and compare their magnitudes.  **CC.8.EE.3** Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the world population is more than 20 times larger.  2.2.7 Develop and use strategies for multiplying and dividing with numbers expressed in scientific notation using the commutative and associative properties.  **CC.8.EE.4** Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology. |
| **COVERING BOTH GLE’S AND CCSS AND SCIENCE INTEGRATION – N/A** |
| **GLE’s but not CCSS**  2.1.1 Compare and order rational and common irrational numbers; e.g., -5, 1⁄16, -4½, √2, pi; and locate them on number lines, scales and coordinate grids.  **CC.6.NS.6c** Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.  2.2.5 Compute (using addition, subtraction, multiplication and division) and solve problems with positive and negative rational numbers.  **CC.7.NS.1b** Understand *p* + *q* as the number located a distance |*q*| from *p*, in the positive or negative direction depending on whether *q* is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.  **CC.7.NS.1c** Understand subtraction of rational numbers as adding the additive inverse, *p* - *q* = *p* + (-*q*). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.  **CC.7.NS.1d** Apply properties of operations as strategies to add and subtract rational numbers.  **CC.7.NS.2a** Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (-1)(-1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.  **CC.7.NS.2b** Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers then –(*p*/*q*) = (–*p*)/*q* = *p*/(–*q*). Interpret quotients of rational numbers by describing real-world contexts.  **CC.7.NS.2c** Apply properties of operations as strategies to multiply and divide rational numbers.  **CC.7.NS.3** Solve real-world and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)  **CC.7.EE.3** Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations as strategies to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.  2.2.13 Solve problems in context that involve repetitive multiplication; e.g., compound interest, depreciation; using tables, spreadsheets and calculators to develop an understanding of exponential growth and decay.  **CC.9-12.A.SSE.1b** Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret *P*(*1*+*r*)*n* as the product of *P* and a factor not depending on *P*. |
| **CCSS but not GLE’s – None** |